



United States Patent and Trademark Office

UNITED STATES DEPARTMENT OF COMMERCE United States Patent and Trademark Office Address: COMMISSIONER FOR PATENTS P.O. Box 1450 Alexandria, Virginia 22313-1450 www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/533,969	05/05/2005	Walter Dobler	12810-00084-US	9630
23416 75	90 02/07/2006		EXAM	INER
CONNOLLY	BOVE LODGE & HU	WITHERSPOON, SIKARL A		
P O BOX 2207 WILMINGTON, DE 19899			ART UNIT	PAPER NUMBER
WIEMINGTO	, BB 17077		1621	

DATE MAILED: 02/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)				
	10/533,969	DOBLER ET AL.				
Office Action Summary	Examiner	Art Unit				
	Sikarl A. Witherspoon	1621				
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the c	orrespondence address				
A SHORTENED STATUTORY PERIOD FOR REPLY WHICHEVER IS LONGER, FROM THE MAILING DA - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period w - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	ATE OF THIS COMMUNICATION 6(a). In no event, however, may a reply be tim fill apply and will expire SIX (6) MONTHS from cause the application to become ABANDONEI	I. lely filed the mailing date of this communication. D (35 U.S.C. § 133).				
Status						
1)⊠ Responsive to communication(s) filed on <u>05 M</u> .	a <u>y 2005</u> .					
,— .	·					
3) Since this application is in condition for allowar	☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is					
closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.						
Disposition of Claims						
4)⊠ Claim(s) <u>1-17</u> is/are pending in the application.						
4a) Of the above claim(s) is/are withdrawn from consideration.						
5) Claim(s) is/are allowed.						
6)⊠ Claim(s) <u>1-17</u> is/are rejected.						
7) Claim(s) is/are objected to.	7) Claim(s) is/are objected to.					
8) Claim(s) are subject to restriction and/or	r election requirement.					
Application Papers						
9)☐ The specification is objected to by the Examine	r.					
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.						
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).						
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).						
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.						
Priority under 35 U.S.C. § 119						
12)⊠ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a)⊠ All b)□ Some * c)□ None of:						
1. Certified copies of the priority documents have been received.						
2. Certified copies of the priority documents have been received in Application No						
3. Copies of the certified copies of the priority documents have been received in this National Stage						
application from the International Bureau (PCT Rule 17.2(a)).						
* See the attached detailed Office action for a list of the certified copies not received.						
Attachment(s)	4) Interview Summary	(DTO 413)				
Notice of References Cited (PTO-892) Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Da	ate				
(PTO-152) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 5/5/05. Notice of Informal Patent Application (PTO-152) Other:						

Art Unit: 1621

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The instant claims are drawn to the preparation of ionones by reacting the pseudoionones obtained from the process of claims 1 and 15, respectively; however, the claims do not recite with what compound(s) and under what conditions the pseudoionones are reacted, thereby rendering the claims indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gradeff (US 3,840,601) in view of Janitschke et al (US 4,431,844) and Mitchell (US 4,874,900.

The instant claims are drawn to a process for preparing pseudoionones (formula I) by reacting an aldehyde (formula II) with a ketone (formula III), in the presence of

Art Unit: 1621

water and an alkali metal hydroxide, and then reacting the pseudoionones thus formed with sulfuric acid in the presence of a diluent to form ionones (formulae IV to VI).

Gradeff teaches a process wherein citral and methyl ethyl ketone are condensed to produce upon dehydration pseudo iso-methyl ionone, which is subsequently cyclized to form methyl ionone (col. 3, lines 29-47). The catalyst for the condensation is potassium or sodium hydroxide or an alkoxide (col. 6, lines 54-56). The cyclization is carried out using phosphoric acid or sulfuric acid-acetic acid mixture (col. 7, lines 32-40).

Janitschke et al teach a process for preparing pseudoionones by condensing an aldehyde with acetone or methyl ethyl ketone at a temperature from 25 to 75° C and residence time of less than 45 minutes, in the presence of 0.005 to 20% by weight of sodium hydroxide or potassium hydroxide. The reaction mixture is worked up by distillation of the ketone during which a certain amount of water is distilled off. Unreacted aldehyde and ketone can be reused for the reaction. The yield of pseudoionone produced is up to 95% based on 100% pure aldehyde employed, or up to 100% based on the aldehyde reacted. Example 1 shows that when acetone is used as reactant, it contains water and also teaches cooling of the reaction mixture under reduced pressure (col. 4, line 34 to col. 7, lines 56).

Mitchell teaches a process for making pseudoionone by condensing acetone and citral in the presence of sodium hydroxide and water (col. 5, lines 53-59).

The differences between Gradeff and the instant claims are that Gradeff does not expressly teach the presence of water in the reaction, does expressly teach the step of

Art Unit: 1621

cooling the reaction mixture prior to removing the ketone product, does not expressly teach that the ketone starting material has a water content, and does not teach the specific amount of catalyst present in terms of weight percentages, as recited in the instant claims.

The references cited in addition to Gradeff all represent known processes for producing pseudoionones by the condensation of and aldehyde and a ketone in the presence of an alkali hydroxide, and subsequent cyclization/hydrolysis of the pseudoionone in the presence of an acid to produce the corresponding ionone compound. As can be seen from what the examiner has stated the references teach, each of the additional references describes limitations that make up for the deficiencies in Gradeff. Since the cited references represent or constitute well established processes for producing pseudoionones and/or ionones, the examiner contends that it would have been obvious for a person of ordinary skill in the art, at the time the present invention was made, to combine the aforesaid reference teachings, with the reasonable expectation of conducting an efficient process for making pseudoionones and/or ionones, based on the combination of steps that afforded optimal results in each individual process. Therefore, the combination of the above references renders the instant claims obvious.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sikarl A. Witherspoon whose telephone number is 571-272-0649. The examiner can normally be reached on M-F 8:30-6:30.

Art Unit: 1621

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

saw

SIKAPILA. VIITHERSPOON